

WAVE SOLDER APPLICATION FOR BALL GRID ARRAY MODULES

Abstract of the Disclosure

A method for fabricating a printed circuit board assembly comprising a via, wherein the method inhibits the flow of molten solder into the via during a wave soldering step, thereby preventing heat transfer that might otherwise degrade a solder joint at a top pad that is thermally coupled to the via. The method comprises the steps of: (1) fastening a bottom component to the bottom surface of the circuit board by a screening and reflow of solder paste that also generates a solder plug in the via; (2) fastening top components to the top surface of the circuit board by a screening and reflow of solder paste, wherein the top components comprise ball grid arrays and other surface mount devices that are to be affixed to pads which are connected to vias; and (3) wave soldering the bottom surface to affix additional components onto the circuit board, such as pin-in-hole components placed on the top surface. The solder plug formed in the via during the first step prevents molten solder from flowing into the via during the subsequent wave soldering step, thereby inhibiting heat transfer from the molten solder to the solder joint at the top pad.